STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.
GOVERNOR

P.O. BOX 25201, RALEIGH, N.C. 27611-5201

E. NORRIS TOLSON
SECRETARY

MEMORANDUM TO: Project Engineers
Project Design Engineers

FROM: W. J. Rogers, P.E.
State Bridge Design Engineer

DATE: February 18, 1998

SUBJECT: PRESTRESSED CONCRETE GIRDER STRUCTURE STANDARDS

All prestressed concrete girder standard drawings PCG1SM (PCG1) through PCG11SM (PCG11) have been modified to reflect numerous revisions, highlighted as follows:

· An increase in the quantity of positive restraining moment steel projecting from the ends of those girders made continuous for live load. There are now six (6) such bars in AASHTO Type IV girders and ten (10) in AASHTO Types V and VI, as well as both Bulb Tee sections. Additionally, the bars in said girders are offset asymmetrically from the girder centerline to improve constructability. Lastly, the extension of these bars from the end of the girder has been increased from 150 mm (6") to 200 mm (8"). This extension requires a comparable 50 mm (2") increase between the ends of prestressed girders at interior bents in continuous for live load bridges. The dimensions from centerline bent to centerline bearing of Figure 7-13A, Sheet 2 of 3 of the Design Manual should therefore be increased by 30 mm (1"). The width of the interior diaphragm in this figure need not be revised.

· An increase in the quantity of vertical stirrups and bottom flange bars at the ends of each girder to satisfy, respectively, the bursting and confinement criteria of AASHTO. The designer should verify that the 150mm (6") spacing at the ends of the girders satisfies the design shear requirement.

· The substitution of anchor studs for deformed anchors on each girder's embedment plate to alleviate congestion of the reinforcing steel.

· An increase in the size of the cored or formed tie rod hole from 51 to 76 mm (2" to 3") to allow greater tolerance, as per the request of the industry.

These revisions should be incorporated into plans as early as practical but no later than with the December, 1998 letting.

The standards are available for immediate use in the standard directories and on the Structure Design Homepage. The Design Manual will be revised accordingly at a later date. NCBDS will incorporate these modifications in the near future.

WJR/RDR/ap

Back to Structures Main Page
Last Updated: 8/11/98 by:Steven Rackley
E-mail Structure Design